

IOWA HIGHWAY RESEARCH BOARD (IHRB)

Minutes of December 6, 2012

Regular Board Members Present

J. Berger	S. Okerlund
V. Dumdei	C. Schloz
J. King	E. Steffensmeier
R. Knoche	W. Weiss
K. Mayberry	T. Wipf
J. Mollering	B. Younie

Alternate Board Members Present

P. Assman	L. Roehl
D. Claman for A. Abu-Hawash	D. Sprengeler
D. Miller	

Members with No Representation

R. Kieffer	D. Schnoebelen
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Secretary - M. Dunn

Visitors

Vanessa Goetz	Iowa Department of Transportation
Lori Pflughaupt	Iowa Department of Transportation
Donna Buchwald	Iowa Department of Transportation
Tim Crouch	Iowa Department of Transportation
Dave Matulac	Iowa Department of Transportation
Brent Phares	Iowa State University/CCEE
Keith Knapp	Iowa State University
Lisa McDaniel	FHWA Iowa Division

The meeting was held at the Iowa Department of Transportation Ames Complex, Materials East/West Conference Room, on Thursday, December 6, 2012. The meeting was called to order at 1:00 p.m. by Chairperson Ron Knoche with an initial number of 13 voting members/alternates at the table.

Agenda

No changes were made to the Agenda.

Motion to approve Minutes from the September 28, 2012 meeting

1st by B. Younie. 2nd by E. Steffensmeier.

Motion carried with 13 Aye, 0 Nay, 0 Abstaining.

Selection of 2013 Chair (DOT):

Ahmad Abu-Hawash was nominated by J. Berger. 2nd by V. Dumdei with 13 Aye, 0 Nay, 0 Abstaining

Selection of 2013 Vice-Chair (County):

K. Mayberry was nominated by J. King. 2nd by R. Younie with 13 Aye, 0 Nay, 0 Abstaining

Board Membership Changes

Effective December 2012:

*Sarah Okerlund, City of Ames replaced J. May as regular member

*Dave Claman, Iowa DOT Office of Bridges and Structures replaced D. Maifield as alternate to A. Abu-Hawash

*Dan Sprengler, Iowa DOT Office of Traffic and Safety replaced T. Simodynes as alternate to B. Younie

Effective January 2013:

*P. Assman replaced J. Moellering as regular member; Patrick Mouw, Ida County Engineer is the alternate for P. Assman

*R. Fangmann replaced C. Schloz as regular member; Myron Parizek, Benton County Engineer is the alternate for R. Fangmann

ANNUAL REPORT and PROPOSAL for Continuation of funding HR-296, "Iowa Local Technical Assistance Program (LTAP)," Keith Knapp, Iowa State University (\$145,000)

2012 Major Initiatives

- Strategic Planning Meeting
- NHI Bridge Inspection Training Program
- Funding for New County Engineers Training Program
- Training Event Redesign
- Website Redesign

2012 Workshops

- Approximately 93 Sponsored/Co-Sponsored Events offered (including 14 online)
- Regularly Scheduled Subjects/Events
 - Excavation/Mower, Flagger, & Work Zone Safety
 - Motor Grader Operator & Slow Plow Operator
 - Snow Rodeo and Streets & Roads
 - Sign Retro-Reflectivity
 - Curb Ramp Design, Route Survey, Road Construction Industry OSHA, & Bridge Inspection
 - ICEA Conferences & GIAC

Proposed 2013 Initiatives

- Customer Training Needs Survey
- Continue NHI Bridge Inspection Training Program
- Evaluation of Roads Scholar Program
- Document/Update LTAP Advisory Board "Bylaws"
- Demand-Based Workshops & Events
- Respond to EDC Exchange Initiative

Total Funding Requested

- \$145,000 from IHRB (\$15,000 add-on for Bridge Inspection Training Program)

- \$140,000 from FHWA
- \$55,000 from 402 Safety Funds (\$5,000 Increase)
- \$64,618 from ISU Extension
- Total: \$404,618 (\$5,000 increase)

Motion to Approve by W. Weiss. 2nd by K. Mayberry.
Motion carried with 13 Aye, 0 Nay, 0 Abstaining.

PROPOSAL Updating the Iowa Culvert Hydraulics and Iowa Bridge Backwater Software, LaDon Jones, Digital Control, Inc., (\$48,600)

BACKGROUND

The Iowa Highway Research Board has previously funded the development of software used for the hydraulic design of culverts (Iowa Culvert Hydraulics: TR-447, TR-504) and estimation of the backwater due to bridges (Iowa Bridge Hydraulics Software: TR-476, TR-564). The first version of the culvert software was released in 2001 and the first version of the bridge software was released in 2003. The software is used by the Iowa Department of Transportation, Iowa County Engineering Offices and consultants.

This project proposes to:

- ✓ convert the Iowa Culvert Hydraulics and Iowa Bridge Backwater software from the visual basic 6.0 programming language to the Microsoft .Net programming system using the VB.NET programming language and .NET framework 4.0.
- ✓ Add the latest U.S.G.S. methods (IHRB TR-519) for estimating design flowrates at ungaged sites in Iowa to both software programs.
- ✓ Update the standard culverts included in the culvert software, and associated head loss estimates.
- ✓ Review the methodology in the Bridge Backwater software to see if any changes or additions are needed.

Motion to Approve by B. Younie, 2nd by E. Steffensmeier.
Motion carried with 13 Aye, 0 Nay, 0 Abstaining.

Second Round RFPs for FY 13

12-06 Development of Asphalt Dynamic Modulus Master Curve Using Falling Weight Deflectometer Measurements

OBJECTIVE

The objective of this study is to develop the asphalt dynamic modulus master curve directly from dynamic FWD testing for use in MEPDG/DARWin M-E flexible pavement analysis and rehabilitation design. Accurate characterization of the existing HMA layer based on routing FWD testing data will not only save laboratory test time and resources, but will also help State, City, and County engineers develop realistic overlay thickness designs, reduce the number of prematurely failing pavements and the associated maintenance costs.

- ✓ **\$50,000**
- ✓ **12 months**
- ✓ **Scott Schram, DOT will be Technical Contact**

12-08 Investigation of Negative Moment Reinforcing in Bridge Decks

OBJECTIVE

Investigate OBS policy concerning the amount of negative moment reinforcing required, over piers, to provide continuity in a bridge deck. Specifically, determining if the office policy of limiting the amount of negative moment reinforcement over the piers is a conservative assumption and then developing methodology to quantify this practice.

Investigate the OBS policy of cutting off negative moment reinforcing (steel above that required for distribution) at the eighth points of the spans. Also, investigate the effects of cutting all the additional negative moment reinforcing at one location in the slab instead of staggering the cut off locations. Investigation of these issues would involve using strain gages placed in bridge decks to determine stresses and calculations to confirm or disprove office policy.

- ✓ **\$100,000**
- ✓ **24 months**
- ✓ **Stuart Nielsen, DOT will be Technical Contact**

12-09 Evaluate the Need for Longitudinal Median Joints in Bridge Decks on Dual Structures

OBJECTIVE

The proposed research would start with a literature search on current practice among state DOTs. An analytical investigation of the true behavior of decks of various widths under typical loadings will follow. The intent is to determine the maximum continuous deck width that can be used without overstress. Based on the outcome of the analytical investigation, develop guidelines for the usage of longitudinal deck joints on dual structures.

- ✓ **\$120,000**
- ✓ **24 months**
- ✓ **A. Abu-Hawash, DOT will be Technical Contact**

12-10 Reliability Testing of Sign Sheeting Retro-reflectivity

OBJECTIVE

This project is proposed in two phases. Phase one includes the collection of results from past research in this area and determination of whether they would serve the needs here in Iowa and its environmental conditions. The second phase would implement the following:

This study should evaluate the useful life of a variety of sign sheeting under a wide range of Iowa conditions. There are a number of factors that can impact the retro-reflectivity of a sign. Some of these factors include, sun exposure, weather, and location. This project should allow an agency to insert an expected useful life input for each sign they have in their inventories. The accuracy or the validity of the useful sign life models should also improve as additional field data is added through the years. This project should be considered the start of a long-term sign sheeting performance evaluation that incorporates periodic updates as appropriate.

- ✓ **After much discussion among the group it was determined not to move forward with this project, the way the proposal is written, at this time. The IHRB does not have the resources to perform test deck evaluation for materials. There is currently guidance available for local jurisdictions to set up a sign reflectivity evaluation and management program.**

NEW BUSINESS

New County Members attendance at TRB

- ✓ **Discussion about when is appropriate for new County IHRB members to attend TRB**
- ✓ **Move up the time the decision of new members is made so new members are aware of their upcoming TRB attendance. Discuss at mid-year County Engineer meeting.**

ADJOURN

Motion to Adjourn by K. Mayberry. 2nd by V. Dumdei.

Motion carried with 13 aye, 0 nay, 0 abstaining.

The next meeting of the Iowa Highway Research Board will be held Friday, January 25, 2013, in the East/West Materials Conference Room at the Iowa DOT. The meeting will begin at 9 a.m.



Mark J. Dunn, IHRB Secretary